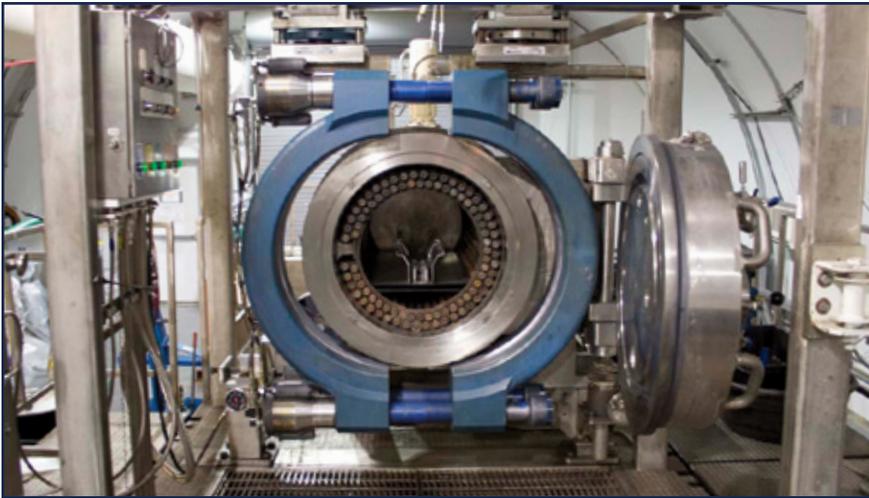




RECOVERED CHEMICAL MATERIEL DIRECTORATE FACT SHEET

EXPLOSIVE DESTRUCTION SYSTEM (EDS) OVERVIEW



The Explosive Destruction System destroys recovered chemical warfare materiel while protecting workers and the environment.

The Explosive Destruction System (EDS) provides on-site treatment of chemical warfare materiel in a safe, environmentally sound manner. As an innovative alternative to the open detonation of explosively configured munitions, the EDS supports both planned and quick-response munition recovery operations.

The EDS uses cutting charges to explosively access chemical munitions, eliminating their explosive capacity before neutralizing the chemical agent. The system's main component, a sealed, stainless vessel, contains all the blast, vapor and fragments from the process. Operators confirm treatment by sampling residual liquid and air from the vessel prior to reopening the EDS.

The success of the first EDS, known as EDS Phase 1, led to the development of a second EDS, known as EDS Phase 2, constructed to contain larger materiel in both size and explosive content. The EDS 2 handles the same items as the EDS 1, plus 155 mm and 8-inch projectiles. Both systems, mounted on trailers, transport easily where needed.

The EDS site layout, set up in accordance with all applicable laws and permit requirements, ensures the overall safety of the workers and the environment. The EDS vessel contains all the blast, vapor and fragments from the process and the continuous air monitoring conducted at every EDS site ensures protection. The U.S. Army Chemical Materials Activity Recovered Chemical Materiel Directorate takes all precautions during operations seriously, and safety remains the top priority.

PHASE 1	PHASE 2
CAPABILITIES	
<ul style="list-style-type: none"> ▶ 4.2-inch mortar ▶ 75 mm artillery shell ▶ Livens projectile ▶ Bomblets 	<ul style="list-style-type: none"> ▶ 4.2-inch mortar ▶ 75 mm artillery shell ▶ Livens projectile ▶ Bomblets ▶ 8-inch projectile ▶ German traktor rocket ▶ M47 bomb ▶ M70A1 bomb ▶ 155 mm projectile ▶ 4-inch stokes mortar
AGENT FILL	
UP TO 28 LBS. // of agent	UP TO 72 LBS. // of agent
<ul style="list-style-type: none"> ▶ Mustard ▶ Nerve Agents ▶ Arsenicals ▶ Lewisite 	<ul style="list-style-type: none"> ▶ Mustard ▶ Nerve Agents ▶ Arsenicals ▶ Lewisite
EXPLOSIVE CAPABILITY	
UP TO 1.5 LBS. // of explosives	UP TO 9 LBS. // of explosives
SYSTEM VOLUME	
54 GAL.	160 GAL.

REV: 09302016





EXPLOSIVE DESTRUCTION SYSTEM (EDS) OVERVIEW

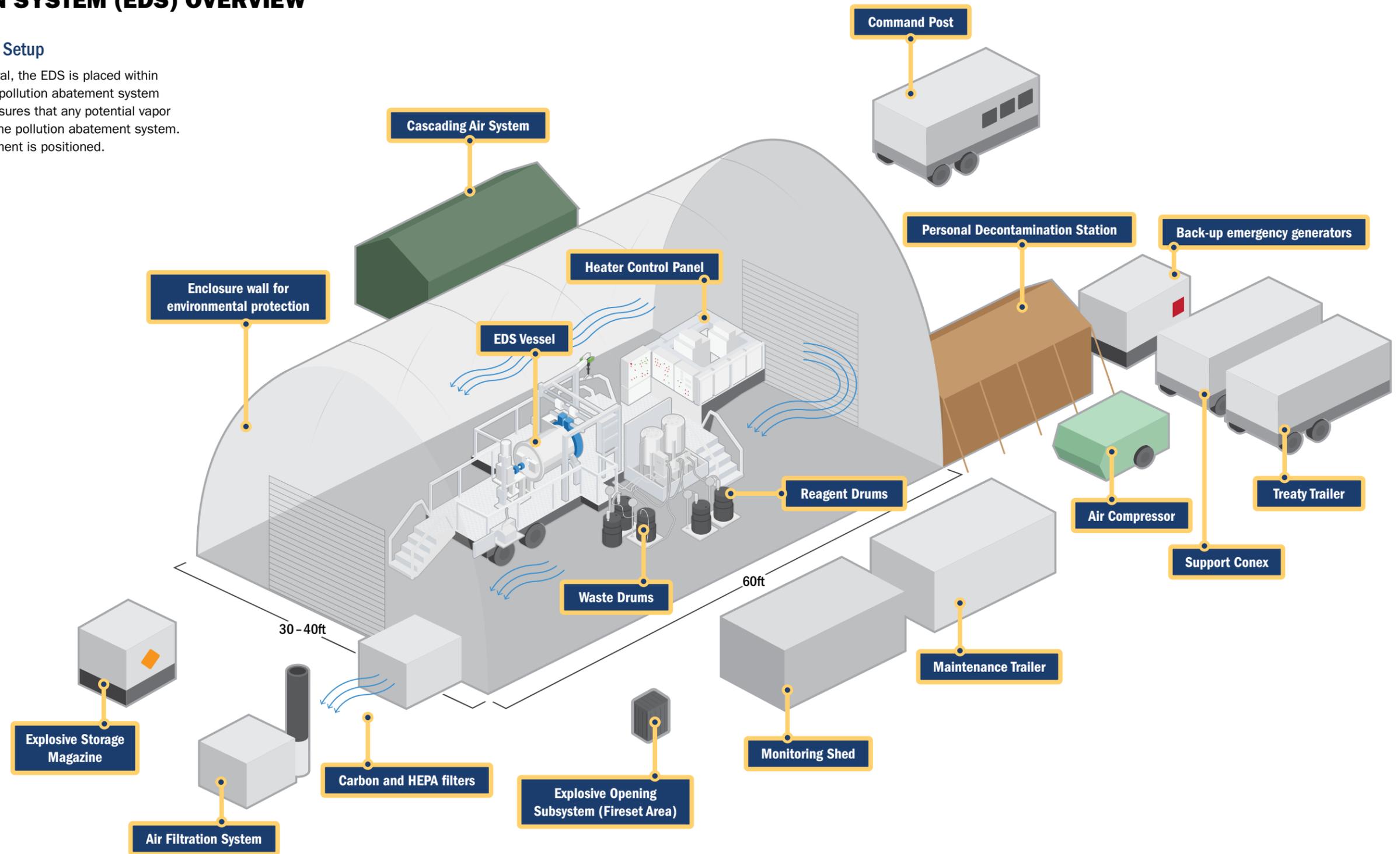
Generic EDS and Supporting Equipment Setup

The EDS site is not a fixed size or layout. In general, the EDS is placed within a structure which is under a slight vacuum with a pollution abatement system using carbon filtration units. This configuration ensures that any potential vapor contamination from the operation is removed by the pollution abatement system. The following is a typical schematic of how equipment is positioned.

Completed Missions

As of 2016, highlights of successfully completed missions include:

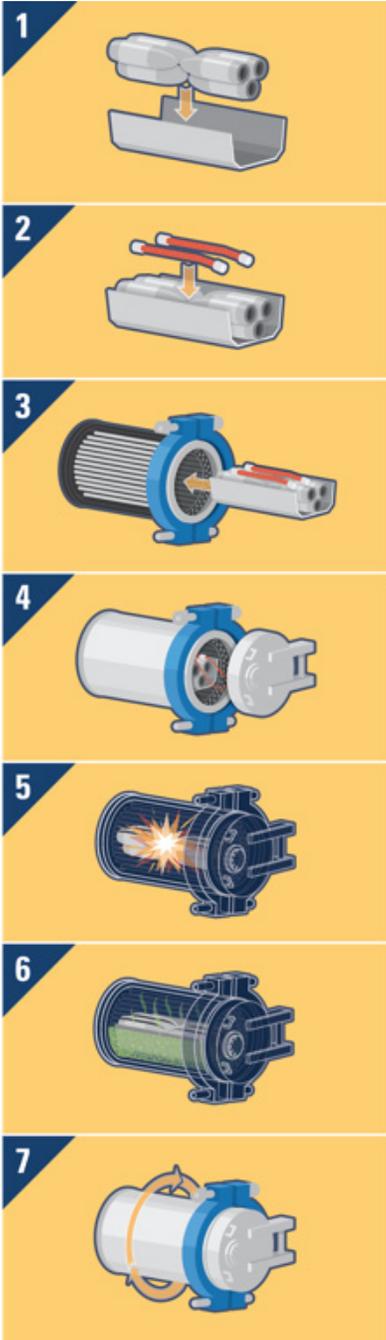
- ▶ Camp Sibert, Alabama
- ▶ Redstone Arsenal, Alabama
- ▶ Pine Bluff Arsenal, Arkansas
- ▶ Livermore, California
- ▶ Pueblo Chemical Depot, Colorado
- ▶ Rocky Mountain Arsenal, Colorado
- ▶ Spring Valley, Washington, D.C.
- ▶ Dover Air Force Base, Delaware
- ▶ Schofield Barracks, Hawaii
- ▶ Aberdeen Proving Ground, Edgewood Area, Maryland
- ▶ Albuquerque, New Mexico
- ▶ Dugway Proving Ground, Utah
- ▶ Tooele Army Depot South, Utah
- ▶ Joint Base McGuire-Dix-Lakehurst, New Jersey





EXPLOSIVE DESTRUCTION SYSTEM (EDS) OVERVIEW

How Does the EDS Work?



Step 1

Overpacked munitions are brought into the environmental enclosure, unpacked and placed in the munition holder.

Step 2

Linear-shaped charges are attached along the munition bodies.

Step 3

Operators slide the items into the EDS vessel where the Advanced Fragment Suppression System surrounds them, protecting the chamber of the EDS during observations.

Step 4

Electrical components are attached, door is closed and the seal is validated.

Step 5

Linear-shaped charges are detonated to access the munition bodies and their chemical fill, while eliminating their explosive capacity.

Step 6

Neutralization chemicals are added and the vessel is heated, if needed, using steam heating technology.

Step 7

The unit rotates to mix the contents and neutralize the chemical fill.

